

## **REMARKS**

### **I. Status of the Claims**

Claims 1 – 41 are pending. Claims 1, 4, 12 and 35 have been amended and claims 42 and 43 have been added. No new matter was introduced. Claims 1-43 are presented for reconsideration.

### **II. The Anticipation Rejection is Overcome**

Claims 1-2, 4-5, 17-19, 22-23, 34 and 39-41 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,315,812 to Fleming *et al.* In light of the above amendments and foregoing remarks, Applicant respectfully traverses.

Independent claim 1 has been amended, and now recites, in part: “wherein the method is carried out at atmospheric pressure.” Support for the amendment may be found in the Specification, for example, at page 7, lines 9-12, at page 9, lines 9-11, and at page 20, lines 15-18.

In contrast, Fleming discloses the use of a combined oxidative pressure leach process. *See* Abstract; *see also* Figure 1 and the supporting text. It appears that Flemings does not teach or suggest carrying out a method for treating a polymetallic sulfide ore at atmospheric pressure as recited in claim 1.

For at least the reasons set forth above, the Fleming reference cannot serve as an anticipatory reference. Applicants respectfully request the removal of the § 102 rejection to claim 1 and its dependent claims.

### **III. The Obviousness Rejections Are Overcome**

#### *1. Claims 1-2, 4-5, 17-19, 22-23, 34 and 39-41*

Claims 1-2, 4-5, 17-19, 22-23, 34 and 39-41 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable by Fleming *et al.*

The Fleming reference fails to render obvious claims 1-2, 4-5, 17-19, 22-23, 34 and 39-41 for at least the reasons provided above. In particular, it appears that Fleming fails to teach or suggest a method carried out at atmospheric pressure. For at least this reason, independent claim 1, and its dependent claims are patentably distinct over Fleming.

2. *Claims 3, 13, and 35-38*

Claims 3, 13, and 35-38 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over the Fleming reference in light of U.S. Patent No. 6,483,373 to Hannaford *et al.*

Applicant disagrees. As explained in the following section, the cited art references fail to disclose at least a method carried out at atmospheric pressure. This alone overcomes the obviousness rejection. MPEP § 2143.03 (“To establish a *prima facie* case of obviousness... the prior art reference (or references when combined) must teach or suggest all the claim limitations.”). Further, there is no motivation to modify or combine the references, and there is no reasonable expectation of success that such modifications or combinations would work. *Id.*

a. *The Prior Art Fails to Disclose the Elements of Claim 1*

Applicants reiterate that the Fleming reference fails to teach or suggest carrying out a method at atmospheric pressure. The Hannaford reference fails to provide the deficiencies. The Hannaford reference is directed toward recovery of metal values in ores by converting *in situ* arsenic in the presence of an additive and oxygen. *See* Abstract. Hannaford fails to disclose or suggest the method being carried out at atmospheric pressure.

Thus, cited references fail to disclose or even suggests the method being carried out at atmospheric pressure. Therefore, the present obviousness rejection is overcome and should be withdrawn. MPEP § 2143.03.

In addition, Applicant respectfully disagrees with the Examiner’s saying that “*it would have been obvious to perform the oxidizing step using lean air in view of the teaching of Hannaford.*” (See Office Action page 3). Hannaford generally teaches a process directed to a high extraction of gold or other precious metal from ore by roasting, followed by leaching, while immobilizing arsenic in an insoluble form in-situ during oxidation (Hannaford, column 5, lines 61-65 and abstract for example). In the examples, Hannaford demonstrates that “*low gold recoveries are achieved when roasting is conducted with air as the oxidizing atmosphere [... and] that the process of the [...] invention using oxygen-enriched air (such as 40% oxygen by volume) allows better control -at lower temperatures- for maximum gold recoveries*”. Emphasis added. *See* Hannaford ‘373 at column 20, lines 61-67; *see also* Hannaford at column 23, lines 33-37 or column 26, lines 51-67. In addition, Hannaford notes, in column 30, lines 48-52, that

“[w]hile it is evident from the composite curves shown above that as oxygen and temperature increase arsenic immobilization occurs, it is also evident that for efficient leaching such temperatures must be kept below ore component fusion temperatures which prevent good cyanide leaching.” Thus, temperatures in Hannaford should be kept at such levels that sintering be avoided, but oxygen levels during roasting are desired to be rather high, and at least higher than the oxygen level in air. *See* column 12, line 59 or column 15, lines 18-19 of Hannaford. This is further suggested by the claims in Hannaford, wherein roasting (in one step or as the second step of a two-stage roasting process) is preferably conducted in an atmosphere having oxygen levels between about 20% and about 50% (claims 16, 24), or between about 25% and about 60% by volume (claims 18, 28). Thus, Applicant respectfully submits that Hannaford fails to disclose using lean air during roasting to obtain satisfactory rates of gold recovery (as well as of arsenic immobilization in an insoluble form, which is not an objective of the present invention).

*b. There is No Motivation to Combine*

Applicant also respectfully disagrees with the Examiner’s allegation that a person of skill in the art would have been motivated to combine the teachings of Fleming with those of Hannaford. The Fleming reference is directed to an oxidative pressure leach process of a precious metal-containing material, preferably with oxygen gas (*see* Fleming, column 5, lines 18-23), while the Hannaford reference teaches a roasting in an oxygen-enriched atmosphere, with one or more additives to stabilize arsenic without volatilization, followed by a cyanide leaching of the precious metal, both of described processes are based on chemically and industrially different principles.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination.” Further, Applicant respectfully notes that “obvious to try” is not the appropriate standard under 35 U.S.C. § 103. *The Gillette Co. v. S.C. Johnson & Son, Inc.*, 919 F.2d 720 (Fed. Cir. 1990) (noting that “‘obvious to try’ is not to be equated with obviousness under 35 U.S.C. 103.”).

*c. There is No Reasonable Expectation of Success that the Combination of the Cited References Would Work*

Another element necessary to establish a prima facie case of obviousness requires a showing of a reasonable expectation of success that modifying or combining the cited references would work. However, there does not appear to be any evidence of record showing that a reasonable expectation of success exists.

Because all three requirements for establishing a prima facie case of obviousness have not been established, the present obviousness rejection cannot be maintained. Applicant requests that the present obviousness rejection be withdrawn.

*3. Claims 8-12*

Claims 8-12 stand rejected under 5 U.S.C. § 103(a) as allegedly being unpatentable by Fleming *et al.*, Hannaford *et al.*, in further view of PCT Publication No. 98/06878 to Lalancette *et al.*

Applicant respectfully submits that the above arguments with regard to the patentability of claims 1-3, 4-5, 13, 17-19, 22-23, 34-41 over Fleming, or Fleming in view of Hannaford equally apply here.

The Lalancette reference generally teaches precious metal recovery from refractory sulphidic ores, which aims at separating and recovering a large part of the arsenic from the starting ore in the form of arsenic sulfides by volatilization in an oxidizing atmosphere devoid of free oxygen. See for example Lalancette '878, page 3, lines 7-19. Nowhere in the Lalancette reference is there teachings or suggestions that the techniques described are carried out at atmospheric pressures.

Therefore, the Fleming reference combined with the teachings of Hannaford, Lalancette, or any reasonable combination of the three fails to teach or suggest all the elements of at least claim 1. MPEP § 2143.03. For at least these reasons, independent claim 1, and its dependent claims are patentably distinct over the cited references. Applicant respectfully requests that the present obviousness rejection be withdrawn.

Additionally, Applicant notes that neither the Fleming, Hannaford, nor Lalancette references teach or suggest each and every element claims 8-12. For example, each of the

reference fails to disclose a first portion of the lean air and sulfur dioxide is recycled or a second portion of the lean air and sulfur dioxide is directed to a scrubbing unit, as recited in claim 8. In another example, uses a limestone ( $\text{CaCO}_3$ ) slurry in a scrubbing unit as recited in claim 9 is not disclosed or suggested in the cited references.

4. *Claims 14-16 and 23-33*

Claims 14-16 and 23-33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fleming in view of PCT Application No. 02/053788 to Lalancette. Applicant disagrees. As noted above, neither Fleming nor fails to teach or suggest carrying out the method at atmospheric pressure as recited in claim 1.

Furthermore, the Lalancette reference discloses a method for the recovery of base and precious metals by extractive chloridation. *See* object of the invention beginning on page 3. There is no motivation to combine within the Lalancette reference or Fleming reference as proposed by the Office. MPEP § 2143.03. In fact, Lalancette a simple extractive chloridation, *without oxidation* which is contrary to the techniques described in Fleming.

In view of the above and foregoing, it is respectfully requested that the Officer reconsider and withdraw the rejection of claims 14-16 and 23-33 under 35 U.S.C. § 103(a).

5. *Claims 6 and 20*

Claims 6 and 20 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Fleming in further view of U.S. Patent No. 6,428,604 to Kerfoot *et al.* Applicant disagrees.

Kerfoot teaches a process for extracting nickel and cobalt from sulfide flotation concentrate by a chlorine leach (oxidation) at atmospheric pressure, followed by an oxidative pressure leach. *See* Abstract. Kerfoot fails to disclose or suggest carrying out the techniques at atmospheric pressure.

Because Fleming fails to teach or suggest all the elements recited in claim 1 and because Kerfoot fails to provide the deficiencies, the combination does not render the claim obvious. MPEP § 2143.03. Applicant respectfully requests that the present obviousness rejection be withdrawn.

5. *Claims 7 and 21*

Claims 7 and 21 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Fleming, Kerfoot, in further view of U.S. Patent No. 3,674,669 to Tuwiner. Applicant disagrees.

As noted above, Fleming, Kerfoot, or their combination fails to render obvious claim 1 and its dependent claims. The Tuwiner reference fails to provide the deficiencies. Tuwiner relates to the concentration of solution of metal salts by electrodialysis, and fails to provide disclosure relating to carrying out a method for treating a polymetallic sulfide ore at atmospheric pressure as recited in claim 1. MPEP § 2143.03.

In view of the above and foregoing, it is respectfully requested that the Examiner reconsider and withdraw his rejection of claims 7 and 21 under 35 U.S.C. § 103(a).

**IV. Newly Added Claims 42 and 43**

This Response adds claims 42 and 43 directed toward the brine solution. Support for the claims may be found, for example, in FIG. 1A. Support may be found, for example, on page 14, line 9 through page 15, line 21 of the Specification.

Claims 42 and 43 are dependent claims of independent claim 1. As noted above, claim 1, is patentably distinct over the Fleming, Hannaford, Lalancette, Kerfoot, Tuwiner, or any combination thereof. Therefore, claims 42 and 43 are patentably distinct over the cited references for at least the same reasons.

**V. Conclusion**

The present document is a full and complete response to the October 5, 2006 Office Action. This case is in a condition for allowance, and such favorable action is requested.

A petition for a two-month extension of time is being electronically filed along with this paper. Should any fees be required under 37 C.F.R. §§ 1.16 to 1.21 for any reason relating to the enclosed materials, the Commissioner is authorized to deduct said fees from or to Fulbright & Jaworski Deposit Account No. 50-1212/GOUD:044US.

Respectfully submitted,



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